REMARKS

This responds to the Office Action mailed on July 3, 2007. Reconsideration is respectfully requested.

Claims 1, 2, 14, 18, and 20 are amended, no claims are canceled, and no claims are added; as a result, claims 1 – 21 remain pending in this application.

§102 Rejection of the Claims

Claims 1 – 3, 14 – 16 and 18 – 21 have been rejected under 35 U.S.C. 102(e) as being anticipated by Saunders et al. (US 6,351,733).

According to the Examiner, Saunders derives from metadata at least two parameters (PCPV and SCRA) of a transfer function. Also according to the Examiner, the transfer function recited in Applicant's claim 1 corresponds to the waveform in each channel of Saunders. Applicant respectfully disagrees with this interpretation of Saunders. In Saunders, the PCPV and SCRA refer respectfully to primary and secondary channels (e.g., primary and secondary audio programs) that are on a dual audio track (see Saunders column 5, lines 31 – 46, and column 18, lines 1 – 4). In Saunders, metadata is not used to derive these channels (see Saunders column 17, lines 17 – 67), but the metadata is used to further enhance the playback features of these channels (see Saunders column 18 lines 1 – 24, and column 23 lines 48 – 67). For example, Saunders suggests that level information may be included with each of these channels and that this data can be utilized at playback so that the SCRA signal does not obscure the PCPV (see Saunders column 18, lines 4 – 13).

Applicant further submits that the waveform in each channel of Saunders cannot correspond to Applicant's transfer function as recited in claim 1. A transfer function is a mathematical expression that describes the relation between an input and an output. For example, a transfer function can be used to describe the expansion and/or compression of an audio track and would operate *independently* of the particular audio track. In Saunders, the waveform in each channel *is* an actual decoded audio track and therefore cannot be interpreted as a transfer function.

Applicant's claim 1, as amended, recites that at least two parameters of a transfer function are derived from statistical distribution of levels encountered in the audio track. As further recited in claim 1, the transfer function comprises a multi-line transfer function, and the parameters include one or more thresholds derived based on a fractional measure of a number of the frames at one or more predetermined levels.

According to the Examiner, Saunders discloses deriving a set of metadata describing the statistical distribution of levels encountered in the audio track. Applicant respectfully disagrees with this interpretation of Saunders and submits that Saunders is not concerned with the *statistical distribution of levels*, but with either the actual levels themselves, or the relative levels between the PCPV and SCRA channels. Saunders does not care how these levels are statistically distributed throughout an audio track (e.g., how many frames are at certain levels). Saunders is concerned with using level information and other metadata to separately control the PCPV and the SCRA channels to enhance playback (see Saunders column 18 lines 1 – 24). In Applicant's claim 1, by deriving the thresholds from a fractional measure of a number of the frames at one or more predetermined levels, substantial independence from track-to-track variations in scaling and dynamics may be achieved. Furthermore, by deriving the thresholds from a statistical distribution

(e.g., a number of frames above certain levels), the multi-line transfer function may be uniquely customized for each audio track.

Applicant's claim 1, as amended, further recites that at least two parameters of a multi-line transfer function are derived from a statistical distribution of levels encountered in the audio track wherein the parameters include one or more thresholds derived based on a fractional measure of a number of the frames at one or more predetermined levels. A multi-line transfer function, for example, may include portions with different slopes (i.e., different compression and/or expansion characteristics). An example of a multi-line transfer function is illustrated in Applicant's FIG. 5. Applicant finds no teachings in Saunders of using a fractional measure of the number of the frames to derive parameters (e.g., one or more thresholds) of a multi-line transfer function.

As recited in Applicant's claim 2, as amended, the multi-line transfer function comprises a multi-line compressor transfer function the one or more thresholds include one or more compression thresholds. Applicant finds no teachings in Saunders of a multi-line compressor transfer function with one or more compression thresholds.

Accordingly, claim 1 is believed to be allowable over Saunders. Claims 14, 18 and 20 have similar recitations are also believed to be allowable. Claims 2 – 3, 15 – 16, 19 and 21 are believed to be allowable at least because of their dependency on either claim 1, 14, 18 or 20.

§103 Rejection of the Claims

Claim 17 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Saunders.

Claims 4-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saunders in view of Nakano (U.S. Patent No. 5,404,315).

Nakano has been cited by the Examiner (in regard to claim 4) for disclosing the use of histogram data of levels encountered in an audio track, and deriving a parameter for a transfer function from a comparison between the original and a desired dynamic spread value. In Nakano, the histogram is a frequency distribution of amplitudes which is used to control gain without being affected by silent portions of the sound signals (see Nakano column 17 lines 45 – 46 and column 18 lines 3 – 6). Nakano, however, does not use the histogram data for to derive one or more compression thresholds of a multi-line transfer function. In Nakano, the histogram data is used *solely* to determine gain coefficients (see Nakano column 7 lines 64 – 66). Nakano also determines gain coefficients based on a comparison of an average of amplitude levels to a standard prescribed amplitude (see Nakano column 10 lines 46 – 52), however Applicant finds no teaching, suggestion or motivation to derive one or more compression thresholds of a multi-line transfer function as recited in Applicant's claim 1.

As further recited in Applicant's claim 1, a time-varying gain to modify the statistical distribution of levels of the audio track is derived from the transfer function and applied to the audio track. Applicant finds no teaching, suggestion, or motivation in either Saunders or Nakano to derive a time-varying gain from a multi-line transfer function for application to an audio track. In Saunders, the level of each channel is separately controllable based on metadata (see Saunders column 18 lines 1 – 34). In Nakano, gain coefficients for each predetermined period are determined as discussed above.

Accordingly, claims 4 - 13, as dependent on claim 1, and claim 17, as dependent on claim 14, are believed to be allowable over the combination of Saunders and Nakano.

Conclusion

Applicants respectfully submit that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney at 480-659-3314 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully Submitted,

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CERTIFICATE UNDER 37 CFR § 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, amd is addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 4th day of February 2008.

Name Dawn R. Shaw Signature /Dawn R. Shaw/